INITIATIVE: CUSTOMER

GOAL: INCREASE USE OF CADD/GIS TECHNOLOGY THROUGHOUT DoD

PROJECT #: 00.032

TITLE: Development of a SDS/FMS to GMS Interface

ORIGINATOR AND SERVICE PROPONENTS:

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Air Force Proponent - No proponent identified by submitter
Army Proponent - No proponent identified by submitter
Corps Proponent – Dave Koran, (202 761-4989), David.Koran@hq02.usace.army.mil
Navy Proponent - No proponent identified by submitter
Center POC – Bobby Carpenter, (601) 634-4572, carpenb@wes.army.mil

REQUIREMENT:
An electronic interface will be developed to allow extraction of field data from a Spatial Data Standards (SDS)/Facility Management Standards (FMS) compliant database and load it into the Department of Defense Ground Water Modeling System (GMS) for groundwater modeling use.

JUSTIFICATION:
Many users have existing databases containing field data from environmental sites. These same users may have several databases in different forms or may not have a functioning Geographic Information System (GIS) in place to utilize this data. The Spatial Data Standards (SDS) provide a standardized schema for storage of spatial data, including environmental data. With SDS/FMS as the standard schema, an interface can be written to extract data from the SDS/FMS schema for use in building input files for the models supported by GMS. Such an interface would negate the need for double entry of data; once for the project database and once into GMS.

OBJECTIVES:
An interface will be developed to facilitate entry of all data fields necessary to perform modeling within GMS. At a minimum, the ability to import field data (e.g., x, y, z, stratigraphy data, water level, etc.) and their various attributes will be accomplished.

APPROACH:
Working jointly with the GMS Program Manager, work on an Interface Design Document was started under CADD/GIS Technology Center Project No. 97.022. This Design Document should be completed in FY99, or early FY2000. Efforts under this proposal include implementation of the Design Document.

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COST:

PRODUCT:
A new module will be added to the existing GMS interface to allow extraction of data from SDS/FMS-compliant databases. This module will be distributed with other upgrades to the GMS interface via existing methods (FTP download, CD-ROM, etc.).

CUSTOMERS:
As of 31 Dec 98 there were 767 licensed users of GMS in DoD, DoE, and EPA. Of these 767 users, 551 are in DoD and 216 are in DoE and EPA. There are over 1400 private sector registered users.

REMARKS:
The number of offices given in the GPRA analysis below represent individual registered users of GMS in the various services. Numbers are not available regarding the actual number of offices using the product, or the number of offices with multiple registered users.

GOVERNMENT PERFORMANCE AND RESULTS ACT (GPRA) REQUIREMENTS:
Once completed and fielded, how many offices will use the results of this project?
Army - 184 installations
Corps - 187 district offices
Navy - 118 installations
Air Force - 54 installations

What is the measurable time or cost savings with the implementation/use of this product?
Standard methods of selecting data points, querying the data base, and hand-entering data into the ground-water model takes approximately 16 hours. Use of the new interface would reduce this time to 2 hours or less. If only half of the registered GMS users perform one modeling study per year, a time savings of approximately 3,800 man-hours would result. At a labor rate of $60/hr (including burden), this equates to cost savings of $ 228,000 per year. B/C ratio = 28.

What, if any, non-quantifiable benefits will be realized?
Fewer errors in data entry, resulting in improved accuracy of model results. Time savings in improved data manipulation capabilities will allow more simulation runs to be performed, allowing evaluation of a greater number and variety of project remedies.

Are commercial-off-the-shelf alternative products available?
No

If yes, what products?
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Does the project conform to current technology?
Yes

Does the project identify well defined stages of development with clear completion points?

Is training required for the product?
No

If yes, how many people per agency?

Are hardware or software upgrades required?
Yes

If yes, at what cost per workstation and/or user?
Zero; DoD-owned software; no hardware upgrades required.

Could this product be overtaken by commercial/industry developments within the next 2 years?
No

Is there anything similar currently in use?
No
If yes, what?